Notice of Allowability	Application No.	Applicant(s)	
	09/574,866	REHG ET AL.	
	Examiner	Art Unit	
	Lilian Vo	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *communication filed on 1/31/05*.

2. ☒ The allowed claim(s) is/are *1 - 8, 11, 13 - 25, 28, 30 - 42, 45 - 54 now renumbered as 1 - 46*.

3. ☒ The drawings filed on *12 May 2005* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *06102005* .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Lilian Vo
Examiner
Art Unit: 2127

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Caroline M. Fleming on 2/22/05.

3. The application has been amended as follows:

In the claims:

i) **Delete claims 9, 10, 12, 26, 27, 29, 43 and 44**.

ii) **Replace claim 1**:

1. (Currently Amended) A computer implemented scheduling method comprising the steps of:

based on scheduling states, defining a set of static schedules for an application program, each static schedule including an assignment of tasks in the application program to processors, each scheduling state including dynamically changing application variables;

during run time, learning a cost of a set of static schedules based on performance of the application program;

maintaining a task execution cost for each task in the application program for each scheduling state; and

designating a static schedule with a lowest cost as an optimal schedule for a scheduling state, an optimal static schedule associated with a new scheduling state is computed using stored task execution costs, the cost of a schedule is updated using stored task execution costs with recent schedule execution costs having more importance.

iii) **Replace claim 4**:

4. (Currently Amended) A scheduling method as claimed in Claim 1 further comprising:

storing a set of all possible schedules associated with each scheduling state; and

upon a change of state, selecting the optimal schedule associated with the scheduling state.

iv) **Claim 11:**

Line 1, replace "claim 10", -- claim 1 --;

v) **Replace claim 18**:

18. (Currently Amended) A scheduling system for scheduling application programs stored in a computer comprising:

a set of static schedules for an application program, the static schedules based on scheduling states, each static schedule including an assignment of tasks in the application program to processors, each scheduling state including dynamically changing application variables;

a task execution table which stores a task execution cost for each task in the application program for each scheduling state; and

a schedule analyzer which:

during run time, learns a cost of the set of static schedules based on performance of the application program;

computes an optimal static schedule associated with a new scheduling state using stored task execution costs;

updates the cost of a schedule using a sliding window by discounting older execution results at an expense of more recent execution results; and

designates a static schedule with a lowest cost as an optimal schedule for a scheduling state.

vi) **Claim 28:**

Line 1, replace "claim 27", -- claim 18 --;

vii) **Replace claim 35**:

35. (Currently Amended) A scheduling system for scheduling application programs stored in a computer comprising:

a set of static schedules for an application program, the static schedules based on scheduling states, each static schedule including an assignment of tasks to processors, each scheduling state including dynamically changing application variables;

a task execution table which stores a task execution cost for each task in the application program for each scheduling state;

means for learning which during run time, learns a cost of a set of static schedules based on performance of the application program; and

means for selecting which designates a static schedule with a lowest cost as an optimal schedule for a scheduling state, an optimal static schedule associated with a new scheduling state is computed using stored task execution costs, the cost of a schedule is updated using stored task execution costs with recent schedule execution costs having more importance.

viii) **Replace claim 36**:

36. (Currently Amended) A scheduling system as claimed in Claim 35 wherein the means for learning learns the cost of a set of static schedules each time there is a change in scheduling state.

ix) **Claim 45**:

Line 1, replace "claim 44", -- claim 35 --;

x) **Claim 46**:

Line 1, replace "claim 44", -- claim 35 --;

xi) **Replace claim 52:**

52. (Currently Amended) A computer system comprising:

a central processing unit connected to a memory system by a system bus;

an I/0 system, connected to the system bus by a bus interface; and

a scheduling system routine located in the memory system which: based on scheduling states, defines a set of static schedules for an application program, each static schedule including an assignment of tasks in the application program to processors, each scheduling state including dynamically changing application variables;

a task execution table which stores a task execution cost for each task in the application program for each scheduling state;

during run time, learns a cost of a set of static schedules based on performance of the application program; and

designates a static schedule with a lowest cost as an optimal schedule for a scheduling state, an optimal static schedule associated with a new scheduling state is computed using stored task execution costs, the

cost of a schedule is updated using stored task execution costs with recent schedule execution costs having more importance.

xii) **Replace claim 53:**

53. (Currently Amended) A computer program product for system scheduling, the computer program product comprising a computer readable storage medium storing computer readable program code thereon to be executed by a computer, including program code which:

based on scheduling states, defines a set of static schedules for an application program, each static schedule including an assignment of tasks in the application program to processors, each scheduling state including dynamically changing application variables;

a task execution table which stores a task execution cost for each task in the application program for each scheduling state;

during run time, learns a cost of a set of static schedules based on performance of the application program; and

designates a static schedule with a lowest cost as an optimal schedule for a scheduling state, an optimal static schedule associated with a new scheduling state is computed using stored task execution costs, the cost of a schedule is updated using stored task execution costs with recent schedule execution costs having more importance.

4. Pursuant to MPEP 606.01, the title has been changed to read: -- SYSTEM FOR COMPUTING THE OPTIMAL STATIC SCHEDULE USING THE STORED TASK EXECUTION COSTS WITH RECENT SCHEDULE EXECUTION COSTS --.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 571-272-3774. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo
Examiner
Art Unit 2127

lv
June 10, 2005

MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100